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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,874	10/26/2000	Yoshiaki Umehara	N45-127803M/MI	2977

7590 03/01/2005  
McGuire Woods LLP  
1750 Tysons Boulevard Suite 1800  
McLean, VA 22102

EXAMINER
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BURCH, MELODY M

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 03/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/695,874

Applicant(s)

UMEHARA ET AL.

Examiner

Melody M. Burch

Art Unit

3683

**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 1/18/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-11, 13-16 and 18-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-11, 13-16 and 18-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6-11, 13-16, 19, 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-835530 (JP'530) in view of US Patent 4705093 to Ogino in view of JP-1146718 (JP'718).

Re: claims 6, 9-11, 14-16, 19, 23-27. JP-835530 shows in figure 1 a caliper body of a vehicular disc brake, the vehicular disc brake inherently having a pair of frictional pads disposed opposite to each other with a disc rotor held therebetween, the caliper body including a cylinder 2 disposed on one side of the disc rotor, a reaction pawl 1 disposed on the other side of the disc rotor, and a bridge portion "a" for coupling the cylinder and the reaction pawl at the outer peripheral side of the disc rotor, the caliper body comprising: a union hole shown surrounding element number 5 formed at the bottom portion of the cylinder of the caliper body capable of being used as a sprue for molding the caliper body with a base material and a cavity shown in the area of element number 4 disposed with the union hole, but does not specifically disclose the limitation of the caliper body being made by a casting method with a base material while the side of molding the bottom portion of the of the cylinder is disposed in a vertically upper part of the cavity and also the side of molding the reaction pawl is disposed in a vertically lower part of the cavity.

Ogino teaches in teaches in col. 2 lines 18-21 the use of a gravity casting method to make a caliper body. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of making the caliper body of JP-835530 to have included gravity casting (inherently resulting in the side of molding the bottom portion of the of the cylinder, which includes the opening for the molten material, being disposed in a vertically upper part of the cavity and the side of molding the reaction pawl being disposed in a vertically lower part of the cavity), as taught by Ogino et al., in order to provide a well-known means of forming the whole shape of the caliper body.

JP-835530, as modified, describes the invention substantially as set forth above including the limitation of the side of providing the cylinder being made an action chamber, the side of providing the reaction pawl and the bridge being a reaction chamber, and a thick-walled connection between the cylinder and the bridge is made a central chamber, but does not include the specific volume ratios.

JP-1146718 teaches in lines 3-5 and in the last line of the abstract the practice of using optimal volume ratios to achieve little to no sink marks during the cooling process of molten material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the volumes of the various sections of the caliper body of JP-835530, as modified, to have been proportioned to have been in the range of 0.6 to 1.25 for the ratio of the central chamber to the reaction chamber or 0.7 to 1.35 for the ratio of the central chamber to the action chamber or any other optimal volume ratios as determined by routine experimentation, in view of the teachings of JP-

Art Unit: 3683

1146718, in order to provide a means of minimizing shrinkage and sink marks.

Examiner further notes that it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Re: claims 7, 8, and 28. With regards to the ratios being established specifically after casting but before being subjected to a cutting process or after casting and after being subjected to a casting process, Examiner notes that according to MPEP 2113 the patentability of a product does not depend on its method of production. Section 2113 goes on to state that if the product in the product-by-process claim is the same as or obvious from a prior art product, the claim is unpatentable even though the prior product was made by a different process. In re Thorpe, 777 F.2d 695,698,227 USPQ 964, 966 (Fed. Cir. 1985).

Re: claim 13. Ogino teaches the use of the base material being aluminum or aluminum alloy in col. 2 lines 12-13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the material of JP-835530 to have included aluminum or aluminum alloy, as taught by Ogino, in order to provide a base material that is both lightweight and sufficiently rigid. Examiner further notes that it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Art Unit: 3683

3. Claims 18 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-835530 (JP'530) in view of US Patent 4705093 to Ogino in view of JP-1146718 (JP'718) as applied to claims 6 and 7 above and further in view of WIPO 98/27353. WIPO 98/27353 teaches in col. 4 lines 13-16 the use of an insert core being incorporated in the casting of a brake caliper body to enable the base material to be injected in symmetry. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the casting procedure of JP-835530, as modified, to have included an insert core, as taught by Weiler et al., in order to provide a means of creating symmetrical caliper chambers and to inherently cause the base material to run toward the bridge and toward the reaction pawl by virtue of the contact with the peripheral surface of the core in combination with the downward force of gravity. Examiner further notes that according to MPEP 2113 the patentability of a product does not depend on its method of production. Section 2113 goes on to state that if the product in the product-by-process claim is the same as or obvious from a prior art product, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695,698,227 USPQ 964, 966 (Fed. Cir. 1985).

***Response to Amendment***

4. Upon further review of the prior art of record, the finality of the previous action is withdrawn.

***Response to Arguments***

5. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection. Upon further review, Examiner notes

Art Unit: 3683

that the limitation of the particular volume ratios is not patentable in light of the teachings of JP-1146718 and the case law of *In re Aller*, 105 USPQ 233.

**Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*mmb*

mmb

February 22, 2005

*Melody M. Burch*

*2/22/05*